In the Claims:

Please amend the claims as follows:

1. (Currently Amended) A method for maximizing group membership comprising:

~~calculating~~ updating a connectivity count of each vertex in a graph, wherein each vertex represents a single item in a multiple item set, and wherein the connectivity count of a vertex is a number of neighbors connected to the vertex;

placing vertices in decreasing order of connectivity based upon said calculated connectivity count of each vertex in said graph;

selecting each vertex with a connectivity count less than a maximum connectivity count;

removing each selected vertex from the graph; and

returning a grouping of interconnected vertices and forming a clique in response to said connectivity count of a least connected vertex becoming equal to the number of remaining vertices in the graph, wherein each vertex in said grouping is connected to each other vertex in said grouping~~, and a quantity of interconnection is equal to said maximum connectivity count~~.

2. (Original) The method of claim 1, further comprising updating said connectivity count for all remaining vertices in said graph following removal of a single vertex from said graph.

3. Cancel

4. Cancel

5. (Previously Presented) The method of claim 1, wherein said vertex is selected from a group consisting of: a computing node, components on a circuit board, division of points in a pattern, and partitions of items.

6. Cancel

7. (Currently Amended) A system to determine a maximum group membership comprising:

a graph with at least two vertices;

a counter to ~~for calculating~~ calculate a connectivity count for each vertex in a the graph, wherein the connectivity count of a vertex is a number of neighbors connected to the vertex;

a placement of each vertex in descending order of connectivity based on said calculated connectivity count;

each vertex in the placement with a connectivity count less than a maximum connectivity count removed from the graph; and

a clique of interconnected vertices formed in response to the connectivity count of a least connected ~~removal of a~~ vertex being equal to a number of remaining vertices in the graph, wherein each vertex in the clique is connected to each other vertex in the clique ~~from said graph with said connectivity count less than said maximum connectivity count to form a group of interconnected vertices~~.

8. (Previously Presented)The system of claim 7, further comprising an update of connectivity for each of said vertices subsequent to said removal of a vertex from said graph.

9. (Original) The system of claim 7, wherein removal of a vertex from said graph with said connectivity count less than said maximum connectivity count in said graph is continuous until said connectivity count of a least connected vertex is equal to said maximum connectivity count.

10. (Previously Presented) The system of claim 7, wherein said vertex is selected from a group consisting of: a computing node, components on a circuit board, division of points in a pattern, and partitions of items.

11. Cancel

12. (Currently Amended) An article comprising:

a computer-readable recordable data storage medium;

means in the medium for updating a ~~calculating~~ connectivity for each vertex in a graph,

wherein each vertex represents a single item in a multiple item set, and the connectivity count of a vertex is a number of neighbors connected to the vertex;

means in the medium for placing vertices in decreasing order of connectivity based upon said calculated connectivity count of each vertex in said graph;

means in the medium for selecting each vertex with a connectivity count less than a maximum connectivity count;

means in the medium for removing each selected vertex from the graph;

~~means in the medium for determining a maximum connectivity count from said ordering of vertices, wherein said maximum connectivity count is a greatest integer of connectivity of said vertices obtained from said ordering of vertices;~~

~~means in the medium for selecting a least connected vertex for removal from a clique in said graph;~~ and

a clique of interconnected vertices formed in response to the ~~means in the medium for removing said least connected vertex from said graph to return a group of interconnected vertices with an interconnection quantity equal to said maximum~~ connectivity count of a least connected vertex being equal to a number of remaining vertices in the graph, wherein each vertex in the clique is connected to each other vertex in the clique.

13. Cancel

14. (Currently Amended) The article of claim 12, wherein said means for removing ~~selecting~~ a least connected vertex for removal from a clique in said graph includes comparing a connectivity count of said least connected vertex with said maximum connectivity count obtained from placing vertexes of a graph in descending order.

15. (Original) The article of claim 12, further comprising means in the medium for updating connectivity for each remaining vertex in said graph subsequent to removal of said least connected vertex.

16. (Currently Amended) The article of claim 12, wherein said vertex is selected from a group

consisting of: a computing node, components on a circuit board, division of points in a pattern, and partitions of items.

17. Cancel

18. (New) The method of claim 1, wherein the step of removing each selected vertex from the graph is continuous until the connectivity count of a least connected vertex is equal to the maximum connectivity count.